

REMARKS

By this amendment, Claim 1, 6, 14 are amended. New Claims 15-19 are added. Support for these claims is found in paragraphs [0071], [0072], FIG. 22, and FIG. 24.. No new matter has been introduced. Applicant acknowledges the Examiner's allowance of Claims 2, 6-11 and 14 have been allowed. Claims 3-5 have been cancelled without prejudice as they were previously withdrawn from consideration. Applicant reserves the right to represent these claims in a future divisional application.

Applicant has amended Claims 6 and 14 herein to clarify its claimed invention.

Claims 1, 12, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Kelderman (U.S. Patent No. 5,452,949).

Kelderman discloses a track assembly having a leading trail arm (21) that is pivotally attached to the frame (16) at pivot pin (22) and a trailing swing arm (31) is pivotally attached by a pivot pin (32) to the frame (16). The leading swing arm (21) has an idler roller (23) rotatably attached thereto through bearing structure (24). Similarly, the trailing swing arm (33) is mounted on an axle or bearing structure (34). Rigidly attached to the leading swing arm (21) is a bracket (25) having another member (26) also rigidly attached thereto. A leading trolley assembly (27) is pivotally attached through a pin (28) so that the trolley (27) can pivot as needed. A total of four mid-rollers (29) are rotatably attached to the trolley (27) on each side of the tractor (10). These trolleys (29) are rotatably mounted about a pin (30). Similarly, on the trailing swing arm (31) is a bracket (35) having a member (36) attached thereto. A trolley assembly (37), which is identical to the trolley (27) of the leading swing arm, is pivotally attached through a pin (38). Mid-rollers (39) are rotatably attached by axles (40) to the trolley assembly (37). The top of the leading swing arm (21) has a hydraulic cylinder (41) pivotally attached thereto at pin (42). Similarly, the

other end of the hydraulic cylinder (41) is pivotally to the hydraulic cylinder clevis (43) by a pin (44). The hydraulic cylinder has a vent port (45) on the shaft side of piston (46). A hydraulic supply port (47) extends into the cylinder (41) on the other side of the piston (46). As the hydraulic cylinder (41) lengthens, so does the shaft (61) extend further from barrel portion (60) in which it reciprocates. Likewise when the cylinder (41) retracts, the shaft (61) will retract into the cylinder portion (60) of the load sensor.

A switch (66) in the cab (67) of the tractor (10) is of the three position type. It will send a signal through line (68) from the cab of the tractor to the computer (53) depending upon which one of three modes is desired to be used. When the switch (66) is placed in the mode 1 position, the computer (53) will open the valve (52) to allow the pressure from port (51) of the tractor hydraulic system to enter line (56) and at the same time, the solenoid (57) will remain open so that the hydraulic cylinders (41) are pressurized and consequently lengthened to the position shown in FIG. 2, which is the optimum position for the idler rollers (23) for highway travel and also for travel in farm fields during normal conditions. In this position there is full load support on the entire distance shown on the bottom of the robber track as shown in FIG. 2. In mode 1, as the lead idler wheel (23) encounters obstructions, it may be forced upwardly. This will cause the cylinder (41) to retract slightly to compensate for that upward movement because the pressure can backup into the accumulator (58). The accumulator would typically be a tank having hydraulic oil therein which is charged on the top thereof with nitrogen gas, which will essentially act as a spring to hold the pressure high in the accumulator, but which will accommodate and absorb shocks during those times when the leading roller (23) hits an obstruction, such as a rock or the like, in a field. After the obstruction has been traversed, the pressure in the hydraulic lines will essentially force the idler arms (21) and (31) and respective idler rollers (23 and 33) back to

the position shown in FIG. 2, after the shock of hitting the obstruction has passed. With the tractor in mode 1, it has been determined that while it is very desirable to have as much contact of the track with the ground or highway as possible, this becomes an impediment to turning the tractor when turning is needed. Consequently, when the user of the tractor (10) gets at the end of the row and wants to turn around to go in another direction, the switch (66) can be moved to mode 3 just for turning purposes only.

When the switch (66) is moved to the mode 3 turning mode, solenoid (57) remains open but valve (52) is moved to drain and relieve pressure in the hydraulic line (56) to the sump (55) of the tractor. This essentially relieves the pressure on the high pressure side of each of the hydraulic cylinders (41), which will allow the cylinders to shorten to the FIG. 3 position since they are vented to atmosphere on the other side of the piston. This puts all of the weight on the mid-roller assemblies (27 and 37) on each side of the tractor and shortens the amount of the rubber track (19) which engages the ground or the road. There is no shock absorbing being done in the mode 3 configuration shown in FIG. 3. After the turning is accomplished, the switch (66) is moved back to the mode 1 position where high pressure is returned to line (56). See Column 3, line 40 - Column 5, line 30.

Amended Claim 1 is patentable by calling for a track assembly for use in a utility cart, the track assembly including, among other features, a top tandem arm pivotally connected to the frame at a pivot member such that the top tandem arm will pivot relative to the frame in a substantially vertical plane, the first wheel being directly connected to a first end of the top tandem arm at one end of the frame, and a bottom tandem arm having a front portion, a rear portion, a top portion and a bottom portion, the top portion of the bottom tandem arm being

pivotally connected to a second end of the top tandem arm, the pivot member being positioned between the first end and the second end of the top tandem arm.

From a closer review of Kelderman, as shown in FIG. 2, it can be seen that the pivot assembly of Kelderman is provided in a different location than that provided and claimed by Applicant. Namely, the pivot member 22 or 32 located on the frame is positioned above both the wheel 23, 33, and the wheels 28, 39, so that the wheels are located on the same side of the pivot axis on arm 21, 31. Applicant, as in Amended Claim 1, has indentified the pivot member attached to the frame to be positioned between the first end and the second end of the top tandem arm, the first end of the tandem arm carrying the first wheel, the second end of the tandem arm carrying the bottom tandem arm which carries the idler wheels.

The location of the pivot axis in Kelderman results in a different effect than that of Applicant's track assembly. In particular, the weight distribution resulting from the track assembly is different. More specifically, Kelderman is directed to a different problem. Kelderman provides a hydraulic cylinder, the purpose of which is to reduce the belt contact with the ground, under the principle that the shorter the footprint of the track, the easier it is to turn the vehicle attached thereto. The hydraulic cylinder, and in particular the change in length of the cylinder changes the ground contact of the belt, and as a result, modifies the weight ratio placed upon the various track assembly components.

Applicant's device, in comparison, permits rocking in a vertical plane about the pivot member positioned on the frame to maintain the same weight ratio, or full load support at all times. More specifically, the track assembly as claimed is arranged so as to maximize ground contact by the continuous belt. Accordingly, Amended Claim 1 is patentable in view of Kelderman.

Claims 12 and 13 depend from Claim 1 and are patentable for the same reasons as Claim 1, and by reason of the additional features set forth respectively therein.

New Claim 15 depends from Claim 1 and is patentable for the same reasons as Claim 1 and by reason of the additional features set forth therein.

Amended Claim 6 is similarly patentable by calling for a track assembly for distributing weight of an implement frame as it is towed across irregular ground, the track assembly includes, among other features, a first tandem arm directly connected to an axle positioned in the wheel frame forming a pivot member for rocking generally in a vertically plane about a first pivot axis, a first wheel positioned at one end of the wheel frame and operably connected to the wheel frame by direct attachment to a first end of the first tandem arm and a second wheel operably connected to the wheel frame, and a first idler wheel structure supported by a second end of the first tandem arm, the pivot member being positioned between the first end and the second end of the first tandem arm such that the first idler wheel structure and the first wheel rock about the first pivot axis in a reciprocating manner to maintain a desired distribution of weight between the first wheel and the first idler wheel structure. As discussed above, Kelderman does not disclose such a structure in which a pivot member is positioned between the first end and the second end of the first tandem arm.

Claims 7-13 depend from Claim 6 and are patentable for the same reasons as Claim 6, and by reason of the additional features set forth respectively therein.

New Claim 16 depends from Claim 6 and is patentable for the same reasons as Claim 6, and by reason of the additional features set forth therein.

Amended Claim 14 is also patentable by calling for a track assembly for distributing weight of an implement frame as it is towed across irregular ground, the track assembly includes,

among other features, a first tandem arm directly connected to an axle positioned in the wheel frame forming a pivot member for rocking generally in a vertically plane about a first pivot axis, a first wheel positioned at one end of the wheel frame and operably connected to the wheel frame by direct attachment to a first end of the first tandem arm and a second wheel operably connected to the wheel frame, and a first idler wheel structure supported by a second end of the first tandem arm, the pivot member being positioned between the first end and the second end of the first tandem arm such that the first idler wheel structure and the first wheel rock about the first pivot axis in a reciprocating manner to maintain a desired distribution of weight between the first wheel and the first idler wheel structure. As discussed above, Kelderman does not disclose such a structure in which a pivot member is positioned between the first end and the second end of the first tandem arm.

New Claim 17 depends from Claim 14 and is patentable for the same reasons as Claim 14 and by reason of the additional features set forth therein.

New Claim 18 is patentable by calling for a track assembly for distributing weight of an implement frame, the track assembly including among other features, an arm attached to an axle positioned in said wheel frame, the axle comprising a first pivot axis for rocking of said arm generally in a first plane, a first wheel positioned at one end of said wheel frame and operably connected to said wheel frame by said first tandem arm, and an idler wheel structure supported by the arm such that the idler wheel structure and the first wheel rock about the first pivot axis in the first plane, the idler wheel structure having a second pivot axis for rocking of said idler wheel structure in a second plane which is perpendicular to the first plane. More specifically, the references of record in the application do not disclose a first pivot axis for rocking of the arm in a

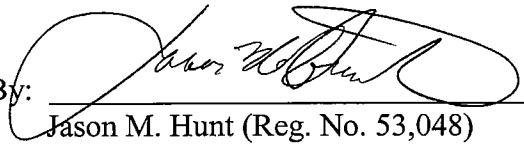
first plane, and a second pivot axis for rocking of the idler wheel structure in a second plane perpendicular to the first plane.

New claim 19 is patentable by calling for a track assembly for distributing weight in a vehicle, the track assembly includes, among other features, a pivot arm pivotally attached to the wheel frame at a first pivot axis, the pivot arm carrying a first wheel and an idler wheel structure spaced from said first wheel, the pivot axis being positioned above said idler wheel structure such that said axis permits said first wheel and said idler wheel structure to rock about said first pivot axis in a vertical plane, the first wheel being connected to said tandem arm so as to pivot in a direction opposite said idler wheel structure. Kelderman does not disclose a track assembly in which a first wheel and an idler wheel structure pivot in opposite directions about the same pivot axis.

In view of the above amendments and remarks, it is respectfully submitted that this Application is in condition for allowance and such action is earnestly solicited. However, should the Examiner have any further point of objection, the Examiner is urged to contact the undersigned by telephone so that a prompt and mutual agreement with respect to claim limitations can be reached.

Respectfully submitted,

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